

## ABSTRACT

The present invention relates to transgenic animals, as well as compositions and methods relating to the characterization of gene function. Specifically, the present invention provides transgenic mice comprising mutations in a alpha-endosulfine gene.

- 5 Such transgenic mice are useful as models for disease and for identifying agents that modulate gene expression and gene function, and as potential treatments for various disease states and disease conditions. The present invention also relates to diabetes and diabetic condition, as it demonstrates the role of the alpha-endosulfine in diabetes and diabetic conditions. The present invention further relates to weight gain and weight
- 10 related conditions, such as obesity, and demonstrates the role of the alpha-endosulfine in weight gain and weight related conditions, such as obesity. In accordance with these aspects, the present invention provides methods and compositions useful in identifying, testing, and providing treatments for diabetes and diabetic conditions, weight gain and weight related conditions such as obesity.